

IN THE CLAIMS

The following listing of claims replaces all prior listings:

1. (Previously Presented) A gas ejector including at least one vibrator, comprising:
a plurality of ejecting sections arranged to eject a pulsating gas flow such that sound waves generated by the vibration of an upper portion of a vibrator and sound waves generated by a lower portion of the vibrator have the same wave form but reversed phases such that the sound waves weaken each other upon ejection from the ejector; and
a first control unit which controls the frequency of the vibration of the vibrator.
2. (Previously Presented) The gas ejector according to Claim 1, further comprising
a second control unit which controls the amplitude of the vibrator.
3. (Previously Presented) The gas ejector according to Claim 1, wherein the vibrator
has a lowest resonant frequency lower than 200 (Hz).
4. (Previously Presented) The gas ejector according to Claim 3, wherein the vibrator
has the lowest resonant frequency of lower than 150 (Hz).
5. (Previously Presented) The gas ejector according to Claim 1, wherein the first
control unit controls the frequency to a value higher than 100 (Hz).

6. (Previously Presented) The gas ejector according to Claim 5, wherein the first control unit controls the frequency to a value higher than 35 (Hz).

7. (Previously Presented) The gas ejector according to Claim 2, wherein the vibrator has a surface extending substantially orthogonal to the direction of vibration thereof, and, when the area of the surface is not greater than 70,000 (mm²), the first control unit controls the frequency to a value higher than 100 (Hz), and the second control unit controls the amplitude to a value in the range from 1 (mm) to 3 (mm).

8. (Previously Presented) The gas ejector according to Claim 7, wherein the second control unit controls the amplitude so as to be in the range from 1.5 (mm) to 3 (mm).

9. (Previously Presented) A gas ejector including at least one vibrator, comprising:
a plurality of ejecting sections arranged to eject a pulsating gas flow such that sound waves generated by the vibration of an upper portion of a vibrator and sound waves generated by a lower portion of the vibrator have the same wave form but reversed phases such that the sound waves weaken each other upon ejection from the ejector;

a first control unit which controls the frequency of the vibration of the vibrator; and

a second control unit which controls the amplitude of the vibrator,

wherein the vibrator has a surface extending substantially orthogonal to the direction of vibration thereof, and, when the area of the surface is not greater than 70,000 (mm²), the first control unit controls the frequency so as not to be higher than 35 (Hz), and the second control unit controls the amplitude so as to be in the range from 1 (mm) to 5 (mm).

10. (Previously Presented) The gas ejector according to Claim 9, wherein the second control unit controls the amplitude so as to be in the range from 2 (mm) to 5 (mm).

11. (Original) The gas ejector according to Claim 1, wherein the vibrator has a surface extending substantially orthogonal to the direction of vibration thereof, and the area of the surface is in the range from 1,500 (mm²) to 70,000 (mm²).

12. (Previously Presented) The gas ejector according to Claim 11, wherein the area of the surface of the vibrator is greater than 2,000 (mm²).

13. (Currently amended) The gas ejector according to Claim 2, wherein the vibrator has a surface extending substantially orthogonal to the direction of vibration thereof, and wherein, when the frequency driven by the first control ~~means~~ unit, the amplitude driven by the second control unit, and the area of the surface are respectively defined by A (Hz), B (mm), and C (mm²), the value of $A \times B \times C$ is given in the range from 100,000 (mm³/s) to 10,000,000 (mm³/s).

14. (Original) The gas ejector according to Claim 13, wherein the value of $A \times B \times C$ is smaller than 200,000 (mm³/s).

15. (Currently Amended) A gas ejector including at least one vibrator, comprising:
a plurality of ejecting sections arranged to eject a pulsating gas flow such that sound waves generated by the vibration of an upper portion of a vibrator and sound waves generated by

lower portion of the vibrator have the same wave form but reversed phases such that the sound waves weaken each other upon ejection from the ejector; and

a ~~first~~ control unit which controls the frequency of the vibration of the vibrator,
wherein,

a thermal resistance of the region between a heater, to which the gas ejected from the respective ejecting sections is supplied, and gas surrounding the heater is lower than 0.7 (K/W), and a noise level at a position about 1 (m) away from a sound source of the sound waves is lower than 30 (dBA).

16. (Previously Presented) The gas ejector according to Claim 15, wherein the noise level is not higher than 25 (dBA).

17. (Previously Presented) The gas ejector according to Claim 16, wherein an envelope volume containing the respective ejecting sections is lower than 250 (cm³).

18. (Original) The gas ejector according to Claim 1, wherein the vibrator has an approximately symmetrical shape with respect to a plane extending orthogonal to the direction of vibration thereof.

19. (Currently Amended) A gas ejector including at least one vibrator, comprising:
a plurality of ejecting sections arranged to eject a pulsating gas flow such that sound waves generated by the vibration of an upper portion of a vibrator and sound waves generated by

a lower portion of the vibrator have the same wave form but reversed phases such that the sound waves weaken each other upon ejection from the ejector; and

a ~~first~~ control unit which controls the frequency of the vibration of the vibrator,
wherein,

a thermal resistance of the region between a heater, to which the gas is ejected from the respective ejecting sections, and gas surrounding the heater is lower than 0.5 (K/W), a noise level at a position about 1 (m) away from the sound source of the sound waves is lower than 30 (dBA), and an envelope volume containing the respective ejecting sections and the heater lower than 500 (cm³).

20. (Original) The gas ejector according to Claim 1, wherein the vibrator includes a first vibrator having a surface extending orthogonal to the direction of vibration thereof and an asymmetrical shape with respect to the surface; and

a second vibrator having substantially the same shape as that of the first vibrator and arranged so as to vibrate along substantially the same direction as but in an opposite direction to that of the first vibrator.

21. (Original) The gas ejector according to Claim 1, wherein the respective ejecting sections include a housing including a plurality of chambers partitioned by the vibrator such that the chambers adapted for ejecting the gas have substantially the same volume as each other.

22. (Currently amended) The gas ejector according to Claim 1, wherein:
the respective ejecting sections include a housing including a plurality of chambers
partitioned by the vibrator and adapted for ejecting the gas[[:]], and
an actuator arranged outside the housing and adapted for driving the vibrator.

23. (Original) The gas ejector according to Claim 22, wherein the housing has a
bore section extending from the outside thereof to at least one of the chambers, the gas ejector
further comprising:

a rod extending through the bore section and fixed to the vibrator so as to move integrally
with the actuator, and

a supporting member provided in the bore section so as to support the rod.

24. (Previously presented) An electronic device including at least one heater and at
least one vibrator, comprising:

a plurality of ejecting sections arranged to eject a pulsating gas flow such that sound
waves generated by the vibration of an upper portion of a vibrator and sound waves generated by
a lower portion of the vibrator have the same wave form but reversed phases such that the sound
waves weaken each other upon ejection from the ejector ; and

control means for controlling the frequency of the vibration of the vibrator.

25. (Currently Amended) A gas ejecting method, comprising the steps of:
ejecting a pulsating gas flow from an ejector such that sound waves generated by the
vibration of an upper portion of a vibrator and sound waves generated by a lower portion of the

vibrator have the same wave form but reversed phases such that the sound waves weaken each

other upon ejection from the ejector; and

using a control unit to control the frequency of the vibration of the vibrator.